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NOVELTIES AND NEW COMBINATIONS IN MEXICAN *HEDEOMA* (LAMIACEAE)

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ABSTRACT

A new species, **Hedeoma irvingii** B. Turner, and a new variety, **H. palmeri** A. Gray var. **galeanum** B. Turner, are described. Both are confined to the state of Nuevo León and were previously placed within the broad confines of *H. palmeri* by Irving in his recent monograph of the genus. In addition, *H. hyssopifolium* A. Gray var. *chihuahuense* Henrickson is raised to specific rank. A map showing the distribution of these several taxa is provided.

KEY WORDS: *Hedeoma*, Lamiaceae, taxonomy, México

Routine identification of Mexican plants has revealed the following novelties.

Hedeoma irvingii B. Turner, *sp. nov.* (Fig. 1). TYPE: MÉXICO. Nuevo León: Mpio. Garcia, 20 mi E of the Ford Clock in Saltillo along highway 40, hence N along the road to the Microwave Station Mariposa, ca. 1 mi from the summit along the north slopes, growing with desert shrubs (*Agave lechugilla, Gutierrezia* sp., etc.) and grasses (*Bouteloua* sp.), 10 Nov 1976, *J.M. Smith* (*Jackie Poole*), *B.L. Turner & Molly A. Whalen 783* (HOLOTYPE: LL!).

Hedeomae palmeri A. Gray similis sed habitu suffruticoso caulibus aliquantum decumbentibus vel inclinatis usque ad 30 cm altis et foliis parvioribus marginibus denticulatis differt.

Suffruticose sprawling perennial herbs to 30 cm high from rather woody rootstocks. Stems moderately to densely white hirsute, occasionally arising from slender rhizomes. Leaves mostly 10-15 mm long; petioles 1-4 mm long; blades broadly ovate to deltoid, smelling of mint when crushed, white hirsute on both surfaces, more densely so beneath, the margins denticulate to nearly

entire, the apices mostly narrowly obtuse to acute. Calyces densely pilose, mostly 7-9 mm long, the lower two lobes 2.0-3.0 mm long, the upper lobe 1.5-2.0 mm long. Corollas 14-17 mm long, pale lavender, the throat about 10 mm long. Fruit (nutlets) immature but clearly ovoid.

ADDITIONAL SPECIMENS EXAMINED: MÉXICO. Nuevo León: just N of Estación Microondas "Mariposa" (ca. 3 km E of Coahuila state line), ca. 25° 40′ N x 100° 45′ W, 1600 m, desert shrublands, 24 May 1973, *Johnston, et al. 11221* (MEXU, TEX); rocky slopes below El Fraile Peak, ca. 3 mi W of Grutas de Garcia, Dec 1961, *R.F. Smith M652* (TEX).

Irving, examining the late flowering, atypical collections of *Johnston, et al.* (cited above), placed these (by annotation) in his concept of *Hedeoma palmeri* A. Gray, a species which has markedly different, much larger leaves, and occurs in more mesic sites (pine-oak forests), usually at higher elevations (mostly 1500-2200 m, occasionally lower along canyons). The type, however, collected in prime condition, shows the plants concerned to be markedly different from *H. palmeri* in leaf shape (abruptly petiolate), size (10-15 mm long, vs. 20-40 mm), vestiture (pilose vs. tomentulose or puberulent) and habitat (desert shrub vs. pine-oak woodland), the isolated arid mountain upon which it occurs being devoid of pine-oak woodlands, or seemingly so. Further, *H. palmeri* is a rather stiffly erect shrublet to 1 m high, while *H. irvingii* is a sprawling low suffruticose herb mostly less than 30 cm high.

It seems appropriate to name the species for my former student, Dr. Robert Irving, who has provided an excellent monograph of the complex. He is currently a self employed environmental lawyer and consultant working out of Hot Springs, Arkansas.

Hedeoma palmeri A. Gray subsp. **galeanum** B. Turner var. **galeanum** B. Turner, *subsp. et var. nov.* TYPE: MÉXICO. Nuevo León: Mpio. Iturbide, 5 mi E of Iturbide along highway 60, area of Canyon Santa Rosa, ca. 3800 ft, scattered on open rocky banks, 5 Jul 1963, *R.L. McGregor, et al. 16* (HOLOTYPE: LL!).

Differt a *Hedeomae palmeri* A. Gray var. *palmeri* foliis bicoloribus paginis infernis dense tomentulosis.

ADDITIONAL SPECIMENS EXAMINED: MÉXICO. Nuevo León: 22-25 mi W of Linares, 19 Jul 1958, *Correll 19789* (LL); 4.1 mi S of Iturbide, 1800 m, 25 Oct 1982, *Grimes 2326* (TEX); E slopes of Cerro Potosí, 2200-2700 m, *Henrickson 18544* (TEX); Cerro Potosí, 15 Jul 1945, *Hernandez 8* (TEX); Cerro Potosí, 2450 m, 8 Aug 1970, *Hinton 17301* (TEX); below San Pedro Iturbide, 1070 m, 25 Sep 1978, *Hinton 17605* (TEX); above El Carrizo, 1900 m, 16 Oct 1983, *Hinton 18614* (TEX); Cerro El Gallo, 2100 m, 16 Oct 1987, *Hinton 19165* (TEX); Cerro El Gallo, 2100 m, 21 Oct 1987, *Hinton 19185*

(TEX); E of Iturbide at "canyon mural," 26 Jul 1966, *Irving 669* (TEX); Cerro Potosí, transition between pine forest and oak woodland, 24 Aug 1984, *Lavin 4814* (TEX); 15 mi SW of Galeana, 15 Jul 1934, *Mueller 1024* (TEX); ca. 75 km S of Galeana, 2000 m, 5 Aug 1978, *Sanders 1208* (TEX); ca. 12 mi NW of Galeana, 20 Aug 1979, *Turner A-27* (TEX); 6.5 mi W of Diesocho de Marzo, 20 Oct 1979, *Warnock 2034* (TEX).

Irving (1968, 1980) was well aware of the reality of this taxon, calling it the "Galeana race" and correctly cited eight specimens. He also noted that the characters which distinguish the populations from the typical forms were maintained in transplant gardens. Nevertheless, Irving (1968) was of the opinion that the two population types "grade imperceptibly into one another." I do not find this to be the case. As shown in Fig. 2, all of the collections of the "Galeana race" cited by Irving (1980), and the considerable material collected since his study, are predominantly from the region about Galeana. The typical var. *palmeri* is more widespread, occurring from SE of Monterrey, Nuevo León to Hidalgo. Indeed, the two taxa do not appear to occur together, or near each other; however, occasional specimens of var. *palmeri* vary in the direction of var. *galeanum* (e.g., *Villarreal 2341* [TEX]), and for this reason the taxon is described at the varietal level and given the rank of subspecies.

My colleague, Guy Nesom, has raised the propriety or necessity of treating this taxon as the only member of its subspecies, noting that the latter term is primarily used for clustering purposes. My response to that being, "Evolution does not always or necessarily create only neat allopatric intergrading varieties; the occasional variety is to be expected to show sufficient differentiation and isolation so as to be labeled a subspecies, much as the occasional species can be sufficiently differentiated morphologically so as to be considered a subgenus."

Hedeoma chihuahuense (Henrickson) B. Turner, *comb. nov., stat. nov.* BASIONYM: *Hedeoma hyssopifolium* A. Gray var. *chihuahuensis* [sic] Henrickson, Sida 11:413. 1986.

In my comprehensive survey of *Hedeoma*, from which the above novelties were exposed, I conclude that *H. hyssopifolium* A. Gray var. *chihuahuense* Henrickson is fully deserving of specific rank, as well noted and illustrated by its author. While clearly related to *H. hyssopifolium*, it differs in so many characters from the latter, occupying differing habitats and markedly allopatric, it seems more consistent with classificatory concepts in *Hedeoma*, as espoused by most authors, to treat the taxon at the specific level (*e.g.*, it is much more distinct than the *H. drummondii* Benth.–*H. reverchonii* A. Gray duo, both of which Irving (1980) maintains, in spite of considerable morphological intergradation between the two.

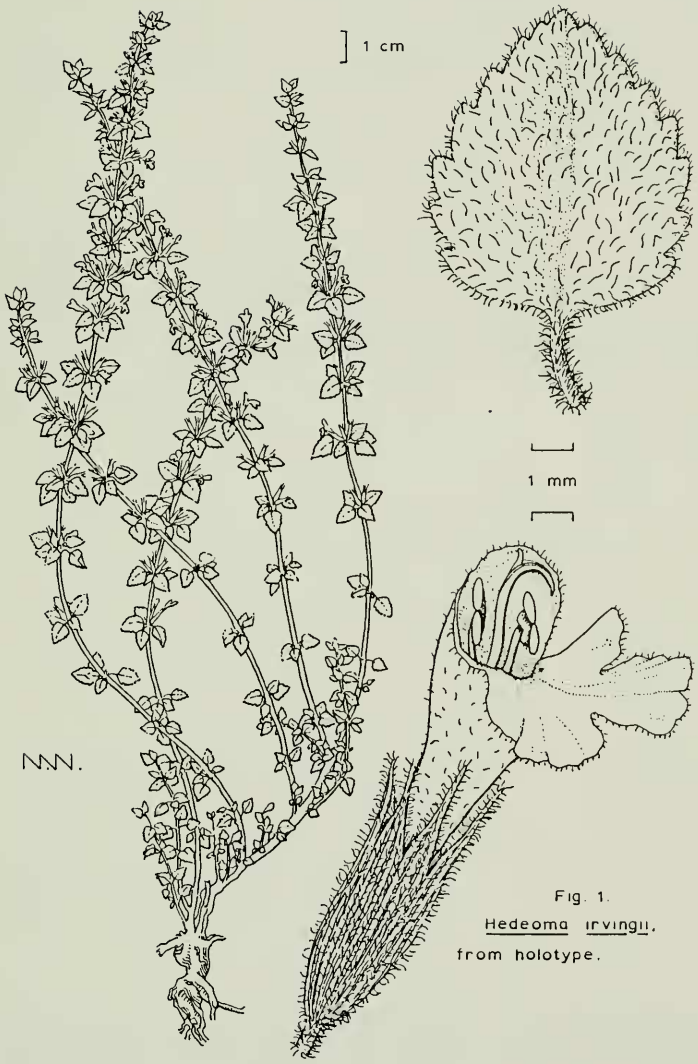

Fig. 1.
Hedeoma irvingii,
from holotype.

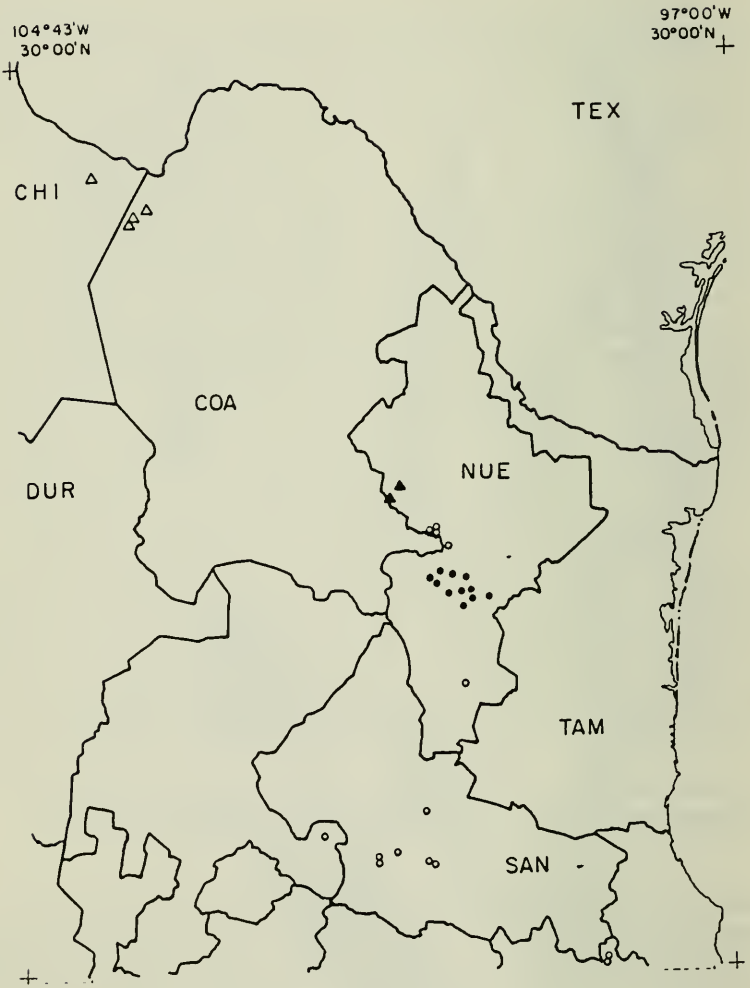

Fig. 2. Distribution of *Hedeoma chihuahuense* (open triangles), *Hedeoma irvingii* (closed triangles), *H. palmeri* var. *galeanum* (closed circles), and *H. p.* var. *palmeri* (open circles). A few collections of the latter from Hidalgo, México are not mapped.

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